

FIG. 1A

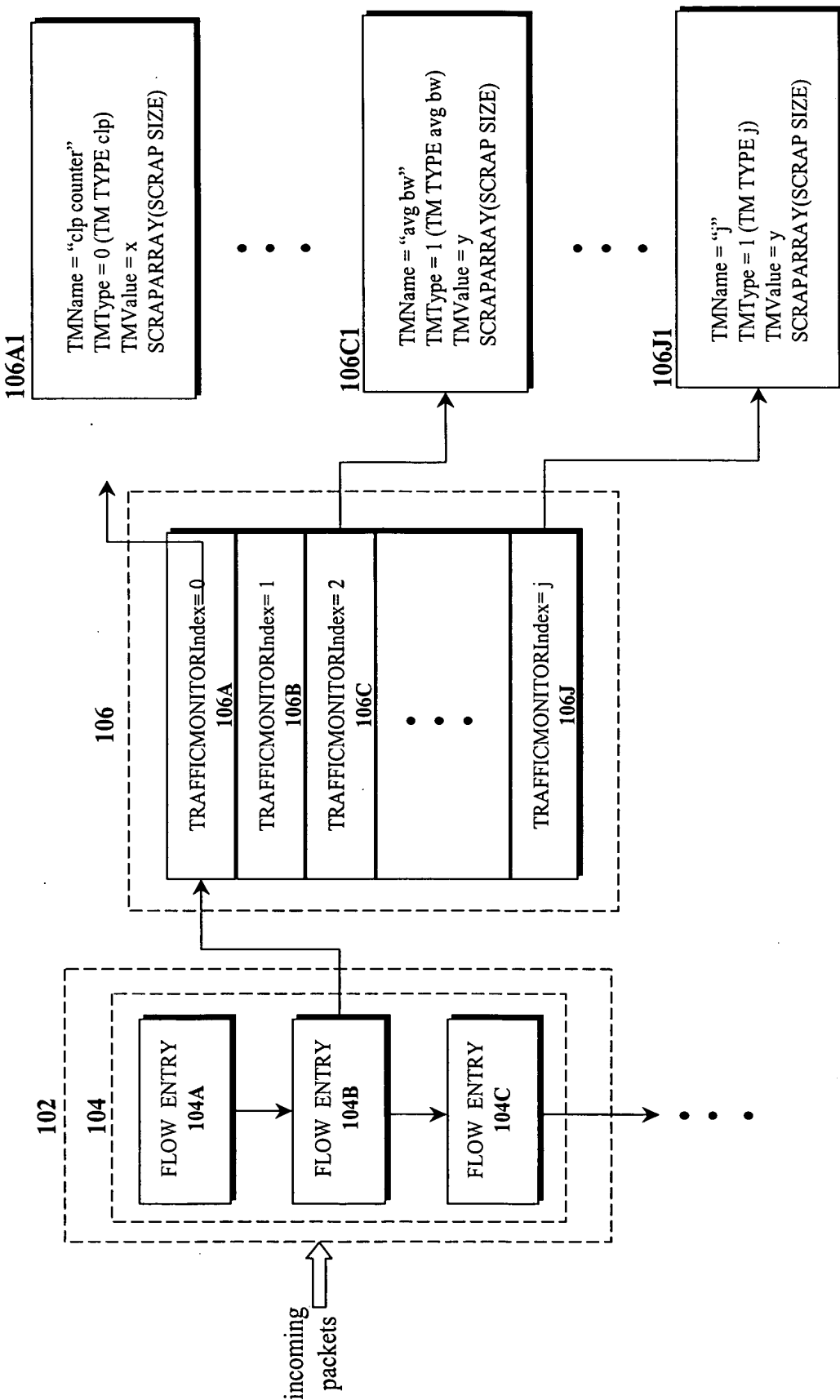


FIG. 1B

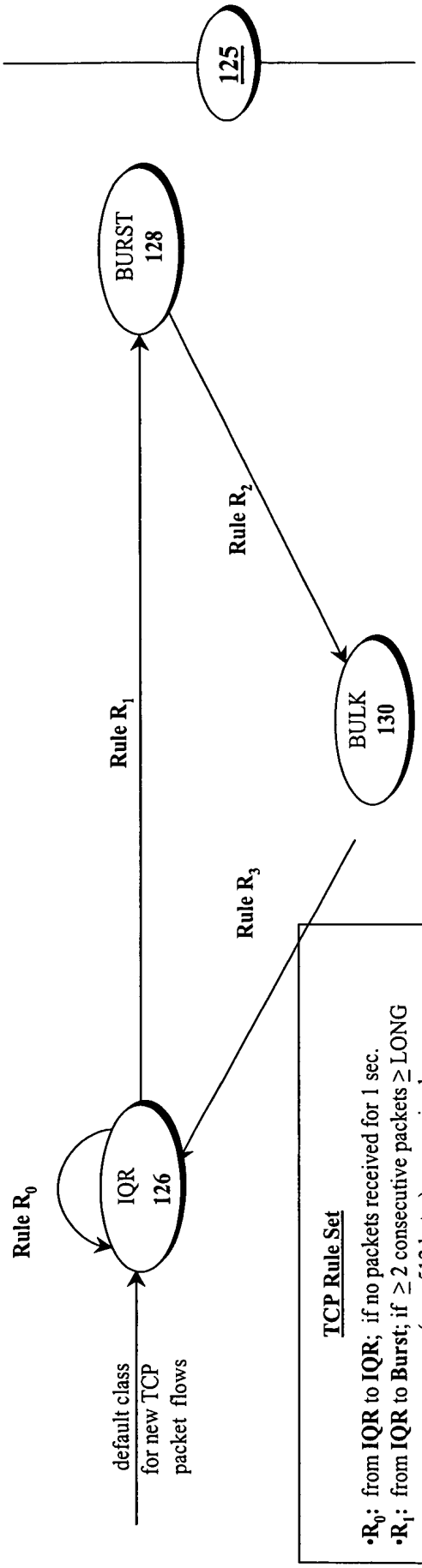


FIG. 1C

TCP Rule Set

- $R_0$ : from IQR to IQR; if no packets received for 1 sec.
- $R_1$ : from IQR to Burst; if  $\geq 2$  consecutive packets  $\geq$  LONG (e.g., 512 bytes) are received
- $R_2$ : from Burst to Bulk; if  $\geq 10$  consecutive packets  $\geq$  LONG (e.g., 512 bytes) are received
- $R_3$ : from Bulk to IQR; if no packets received for 1 sec.

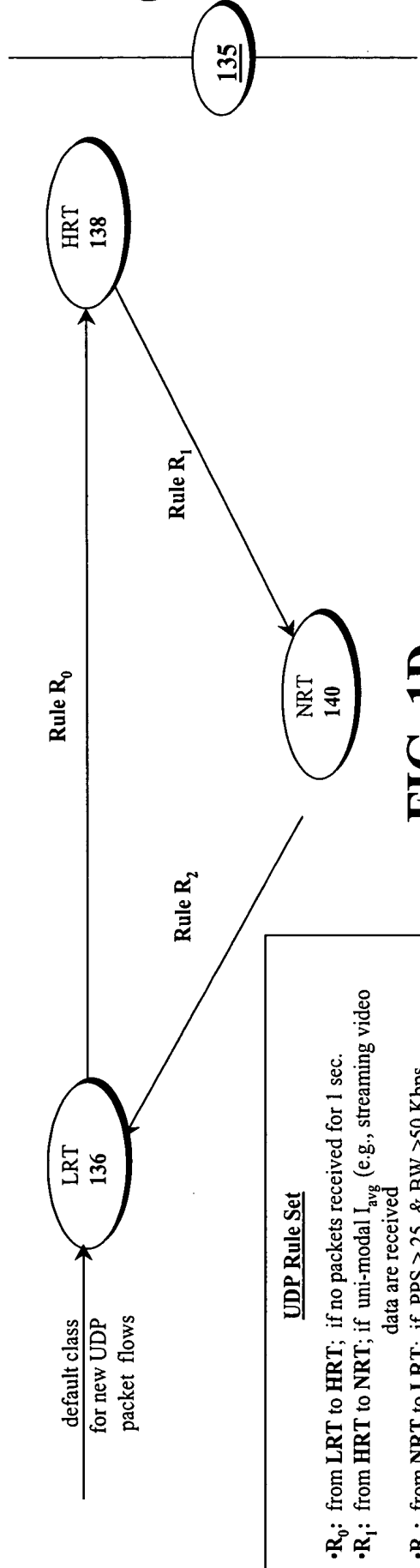


FIG. 1D

UDP Rule Set

- $R_0$ : from LRT to HRT; if no packets received for 1 sec.
- $R_1$ : from HRT to NRT; if uni-modal  $I_{avg}$  (e.g., streaming video data are received
- $R_2$ : from NRT to LRT; if PPS > 25 & BW > 50 Kbps are received

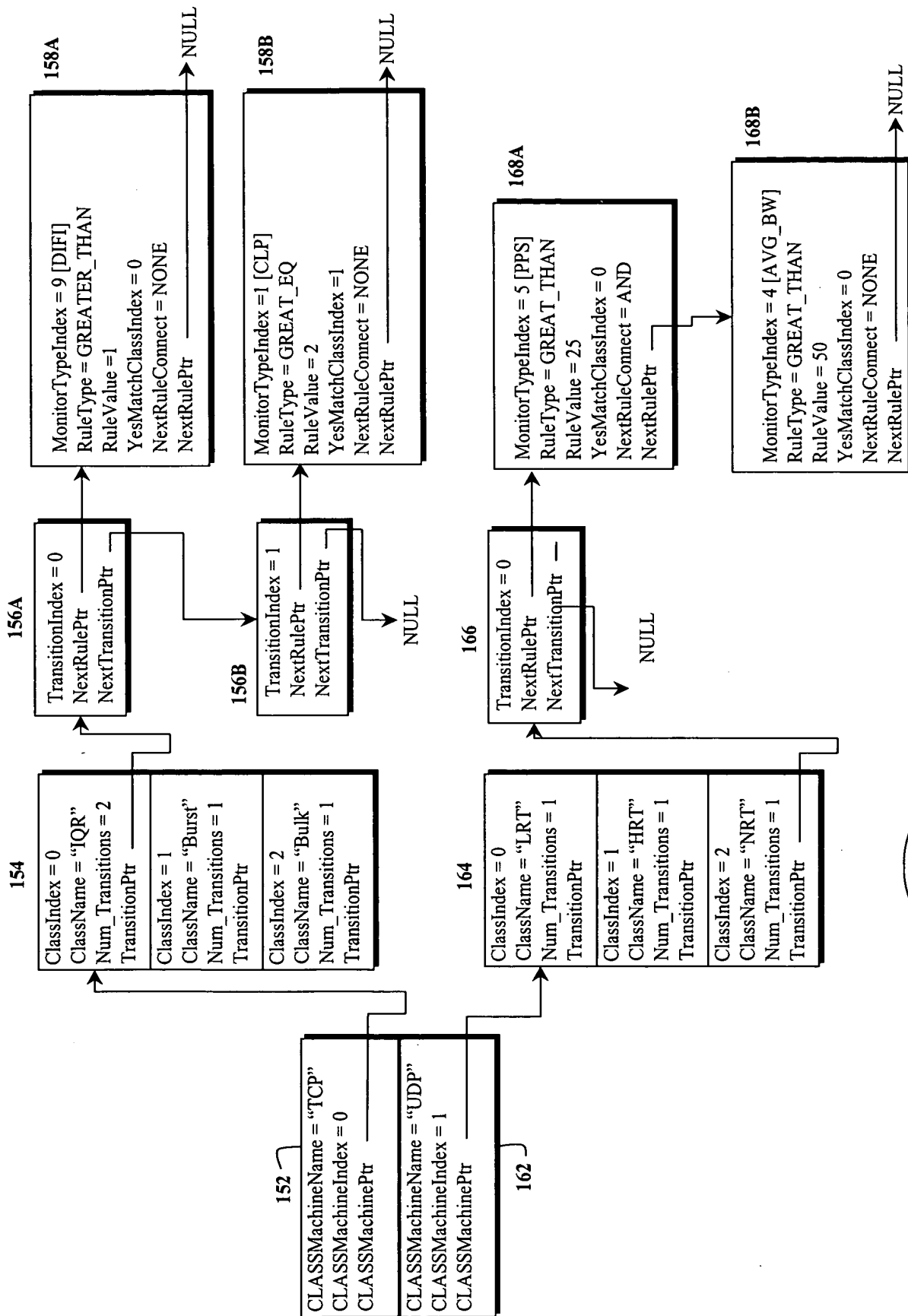


FIG. 1E

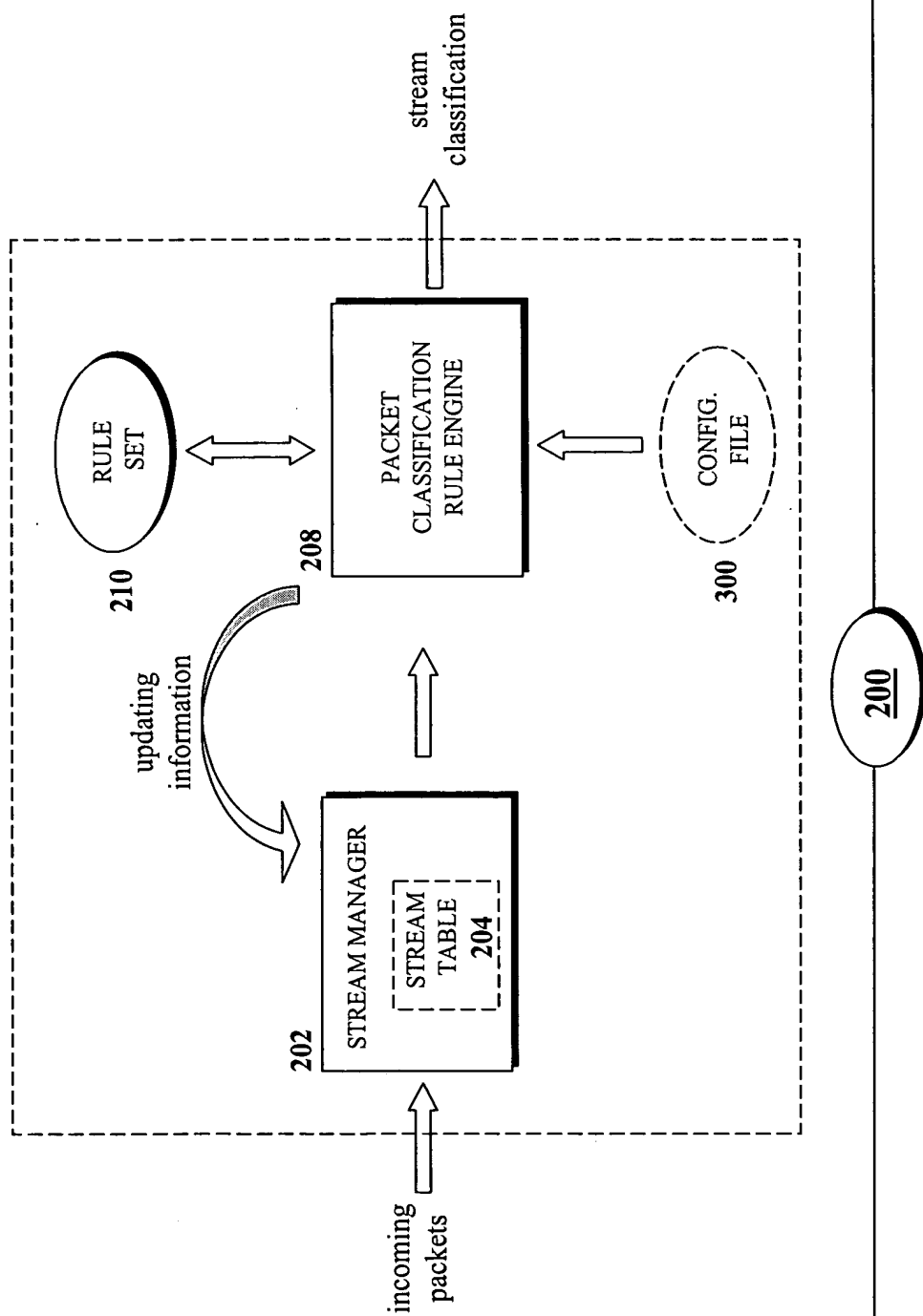


FIG. 2A

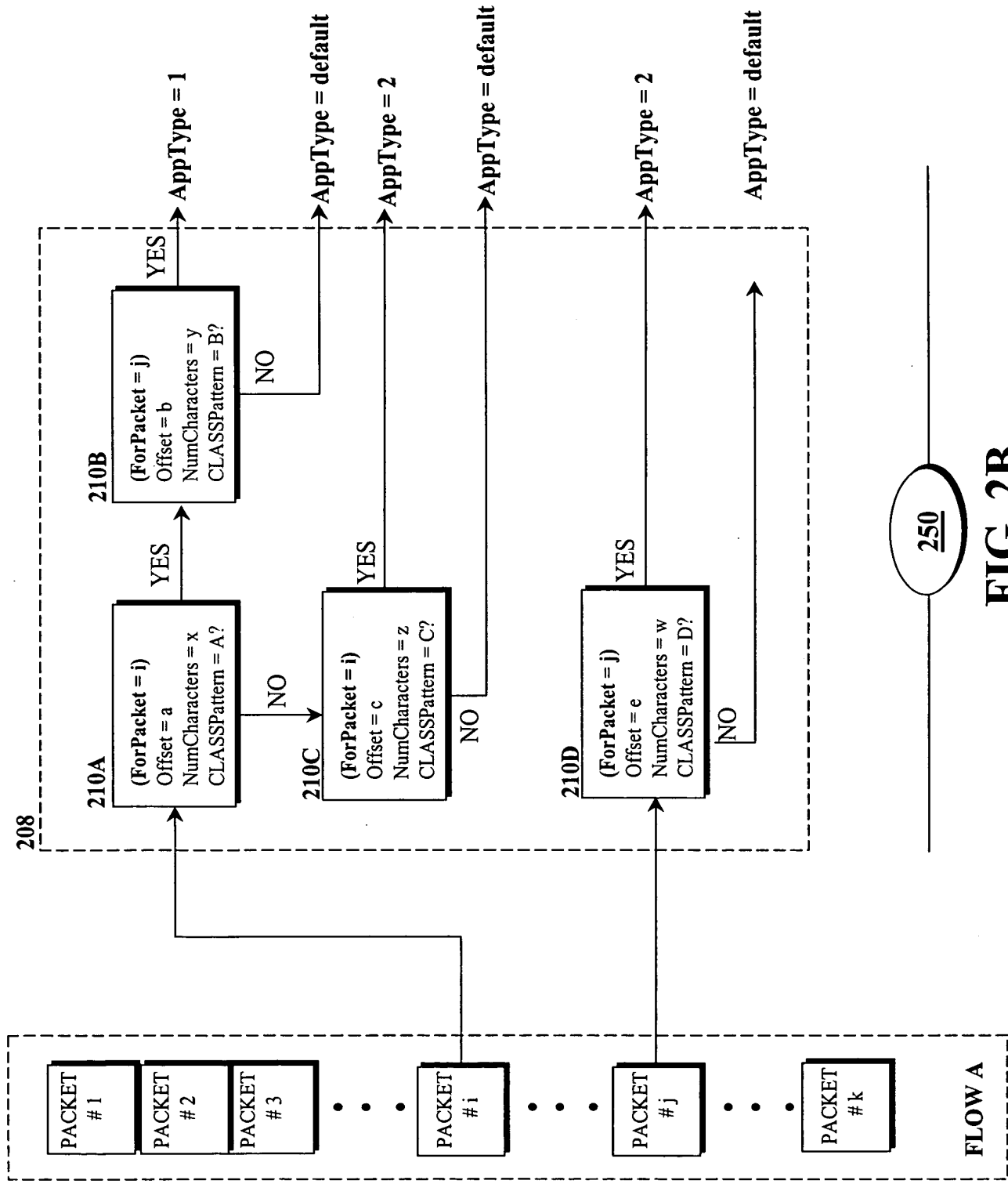


FIG. 2B

## CLASSIFICATION RULE ENGINE CONFIGURATION FILE

#Set the bps for port 1 to 10Mbps and port 2 to 5Mbps  
 bandwidth 1 10000000;  
 bandwidth 2 5000000;

#Enable the static Layer-7 classifier by default; Can change to Dynamic Classifier by changing the setting to policy dynamic  
 policy static;

# Define 2 classes of Traffic  
 class high;  
 class low;

# These two queues use a bounded strict priority scheduler in which# the high priority queue can consume 70% of available bandwidth and# the low #priority queue can consume all remaining bandwidth. The# low priority queue is the default queue.

```
scheduler bsp {
  queue high 70;
  queue low 100 default;
}
```

# MBase Application: UDP, high priority class  
 application mbase 17 high;

# Search first 10 bytes of first packet for pattern  
 appRule mbase 1 pattern "meDiabASe" 0 10;

# Dynamic Classifier Rules – Transition from High to Low Priority Class  
 dynamicRule high low OR NOT belowThresh 85;  
 dynamicRule high low OR belowThresh 93;

# Dynamic Classifier Rules – Transition from Low to High Priority Class  
 dynamicRule low high OR belowThresh 85;  
 dynamicRule low high AND NOT belowThresh 93;